
Chapter 4: Configuring your Meridian IVR system

Base system software configuration

The majority of the system is configured for the customer's needs at the time of installation, or during system expansion. Based on the needs of the customer site (database and so on) some parameters may require fine-tuning.

Modifying the UNIX system configuration

The default UNIX system parameters are modified when Meridian IVR is installed. These parameters include maximum number of processes, open files, event queues, regions, and most importantly, stream pipe limits. Any required kernel tuning is done automatically during installation by the software itself. This fine-tuning does not require any human intervention.



ATTENTION!

If you are installing third party software, such as SQL database or 3270 emulation, you will have to follow the vendor's procedures to tune the kernel parameters.

Physical I/O port configuration

The following table illustrates I/O port configuration for the Meridian IVR 2.0/I platform.

Table 4-1
Device name and legends

Legend/Label	Used for	Device Name	Board
COM1	Keylock	tty1a	
		tty1A	
COM2		tty2a	
	Modem (for Remote Support)	tty2A	
Parallel Port	Printer	lp0	
P1 (DigiBoard)	ACCESS Link	ttyi1a	Number 1
	<i>Modem</i>	ttyi1A	
	Printer	pri1a	
	Printer with Modem Control	pri1A	
P2 (DigiBoard)	ACCESS/VT100 or RS-232	ttyi1b	Number 1
	<i>Modem</i>	ttyi1B	
	Printer	pri1b	
	Printer with Modem Control	pri1B	
P3 (DigiBoard)	ACCESS/VT100 or RS-232	ttyi1c	Number 1
	<i>Modem</i>	ttyi1C	
	Printer	pri1c	
	Printer with Modem Control	pri1C	

Table 4-1
Device name and legends (Continued)

Legend/Label	Used for	Device Name	Board
P4 (DigiBoard)	ACCESS/VT100 or RS-232	ttyi1d	Number 1
	<i>Modem</i>	ttyi1D	
	Printer	pri1d	
	Printer with Modem Control	pri1D	
P5 (DigiBoard)	ACCESS/VT100 or RS-232	ttyi1e	Number 1
	<i>Modem</i>	ttyi1E	
	Printer	pri1e	
	Printer with Modem Control	pri1E	
P6 (DigiBoard)	ACCESS/VT100 or RS-232	ttyi1f	Number 1
	<i>Modem</i>	ttyi1F	
	Printer	pri1f	
	Printer with Modem Control	pri1F	
P7 (DigiBoard)	UPS, ACCESS/VT100 or RS-232	ttyi1g	Number 1
	<i>Modem</i>	ttyi1G	
	Printer	pri1g	
	Printer with Modem Control	pri1G	
P8 (DigiBoard)	MM Console	ttyi1h	Number 1
	<i>Modem</i>	ttyi1H	
	Printer	pri1h	
	Printer with Modem Control	pri1H	

Table 4-1
Device name and legends (Continued)

Legend/Label	Used for	Device Name	Board
P1 (DigiBoard)	VT100 or RS-232	ttyi2a	Number 2
	<i>Modem</i>	ttyi2A	
	Printer	pri2a	
	Printer with Modem Control	pri2A	
P2 (DigiBoard)	VT100 or RS-232	ttyi2b	Number 2
	<i>Modem</i>	ttyi2B	
	Printer	pri2b	
	Printer with Modem Control	pri2B	
P3 (DigiBoard)	VT100 or RS-232	ttyi2c	Number 2
	<i>Modem</i>	ttyi2C	
	Printer	pri2c	
	Printer with Modem Control	pri2C	
P4 (DigiBoard)	VT100 or RS-232	ttyi2d	Number 2
	<i>Modem</i>	ttyi2D	
	Printer	pri2d	
	Printer with Modem Control	pri2D	
P5 (DigiBoard)	VT100 or RS-232	ttyi2e	Number 2
	<i>Modem</i>	ttyi2E	
	Printer	pri2e	
	Printer with Modem Control	pri2E	

Table 4-1
Device name and legends (Continued)

Legend/Label	Used for	Device Name	Board
P6 (DigiBoard)	VT100 or RS-232	ttyi2f	Number 2
	<i>Modem</i>	ttyi2F	
	Printer	pri2f	
	Printer with Modem Control	pri2F	
P7 (DigiBoard)	VT100 or RS-232	ttyi2g	Number 2
	<i>Modem</i>	ttyi2G	
	Printer	pri2g	
	Printer with Modem Control	pri2G	
P8 (DigiBoard)	VT100 or RS-232	ttyi2h	Number 2
	<i>Modem</i>	ttyi2H	
	Printer	pri2h	
	Printer with Modem Control	pri2H	

Interrupt requests and system I/O map

Interrupt request

Interrupt requests (IRQs) are used in the Meridian IVR 2.0/I hardware platform (Application Processor). An IRQ is a signal sent to the central processing unit (CPU) to temporarily suspend normal processing and transfer control to an interrupt handling routine. Interrupts may be generated by conditions such as completion of an I/O process, detection of hardware failure, and so on. [Table 4-2](#) illustrates IRQs used for different devices.

System I/O Map

The Input/Output Address, or I/O address is the starting memory address through which the CPU exchanges data with peripheral devices such as floppy drives, SCSI devices, COM ports (tty's) and others. It is important to remember that no devices should share the same I/O address in memory.

Table 4-2 illustrates the I/O memory allocation of the motherboard and devices for the Meridian IVR 2.0/I hardware platform.

Table 4-2
Interrupt/Memory address and I/O port address list

IRQ	Memory address	I/O port address	Direct memory access channel	Device name
0				Reserved Interval timer
1				Reserved, keyboard buffer full
2				Reserved, cascade interrupt from slave PIC
3		2f2		Onboard Serial Port 2 (COM2) (Modem)
4		3f8		Onboard Serial Port 1 (COM1) (Keylock)
5	D2000			Dialogic Fax Boards (all boards)
6		3f2	2	Onboard Floppy Controller
7		378		Parallel Port Number 1 (LPT1)
8				Real-time clock (RTC)
9				Video Controller
10		f880		PCI Ethernet Controller
10		1a20 DC000	6	ISA Token-Ring Controller (For LAN Connectivity only)
11		fc00		PCI SCSI Adapter Controller
12		60		Onboard PS/2 Mouse port
13				Reserved Math Coprocessor (FPU)

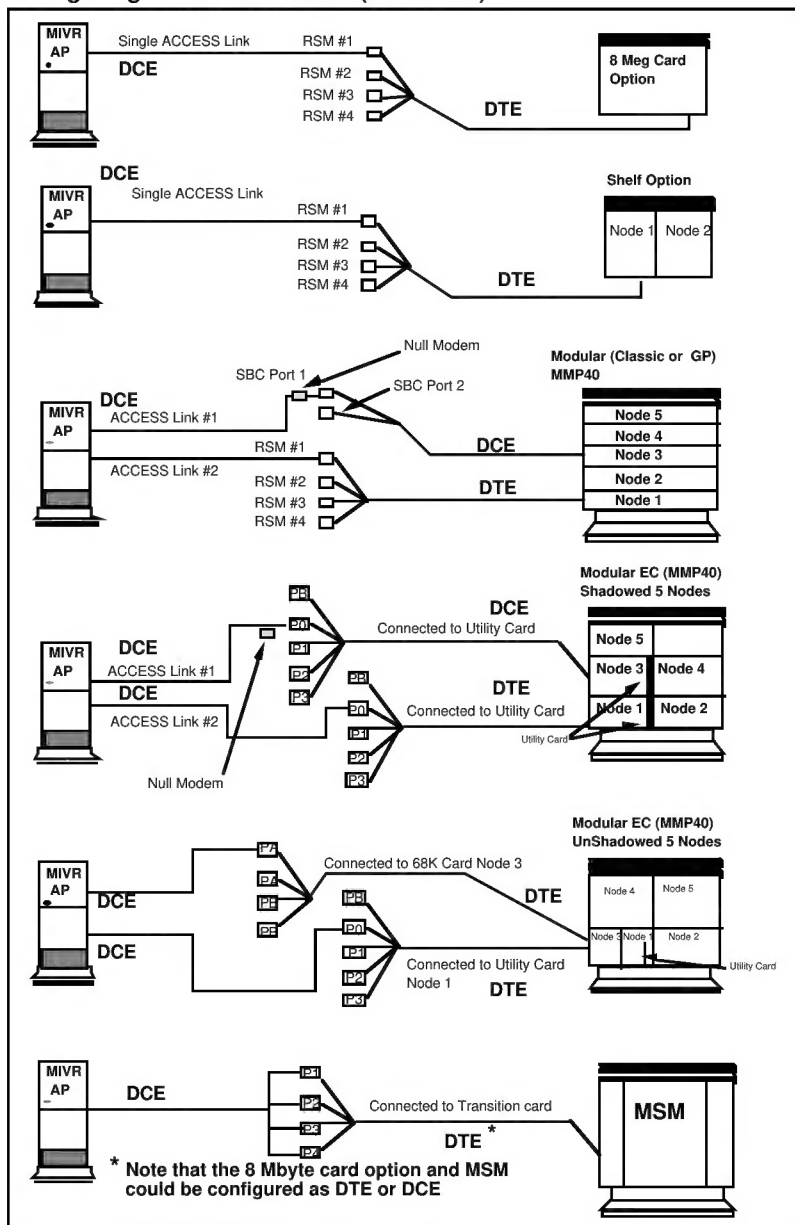
Table 4-2**Interrupt/Memory address and I/O port address list (Continued)**

IRQ	Memory address	I/O port address	Direct memory access channel	Device name
14				Used by IDE Controller (can be disabled)
15	DC000	340		Sync/570 RS-232 Host first Board
15		3a20 DE000	5	ISA Token-Ring Controller (For Host Connectivity only)
	D0000	300		PC8e Digiboard (RS-232 board) first Board
	D0000	320		PC8e Digiboard (RS-232 board) second Board

Meridian IVR and MMail configuration

The following configuration diagram ([Figure 4-1](#)) illustrates some of the valid Meridian IVR 2.0/I Application Processor and Meridian Mail connectivity configurations.

Figure 4-1
Configuring the AP with MMail (Pre MM10)



Voice and telephony resources configuration

Each Meridian Mail channel corresponds to an SI-1 agent set on the PBX. Each agent is owned by an ACD DN. There may be ACD DN's without any agents, but they may be forwarded to an ACD DN owning Meridian Mail channels and, thus, get served by Meridian Mail and Meridian IVR.

The channel allocation table

The service to be started up on a channel is defined in the Channel Allocation Table (CAT) on Meridian Mail.

For Meridian IVR

- the service can be defined as ALL if the channels are to be *shared* with Meridian Mail services
- the service can be defined as ACCESS if the channel is to be *dedicated* to Meridian IVR

If the class is ACCESS, it must be given a certain class. This is simply any number (the range is 1 to nnnn).

The voice services directory number table

The voice services directory number table is also known as the VSDN table. If channels are shared, then the service to be started up on that channel depends on the ACD queue on which the call first lands. In shared mode, a number of queues are normally forwarded to the queue owning the channels. The service to be started for an ACD DN is listed in the VSDN table. If shared channels are being used, Meridian IVR ACDN has ACCESS as its service with a specific class. If more than one Meridian IVR ACDN is being used, each should get a unique class.

If dedicated channels are used, an entry must be made in the VSDN table for the DN owning the channels with ACCESS service. The class may be any one from the channels it owns.

Outcalling channels

It is recommended that channels to be used by MIVR for outcalling be configured as dedicated and belonging to a queue on which calls are *never* presented by the switch.

Meridian IVR resources configuration

Channel configuration on Meridian IVR

If dedicated channels are used, then they must be configured as DEDICATED on Meridian IVR with the same unique channel class being used on Meridian Mail. There must be one dedicated channel of the same class on MIVR corresponding to a dedicated channel of the same class on Meridian Mail.

If shared channels are being used, the *same* number of channels must be configured as shared on MIVR. The classes used depend on how many are to be used for the various ACD DN's in the VSDN table.

For example, say that there are 10 shared Meridian Mail channels. There are two ACD DN's in the VSDN table which are to be serviced by those 10 channels. Say ACD DN 1 is of class 1, and ACD DN 2 is of class 2. On Meridian IVR, there must be 10 shared channels. If the traffic for DN1 calls for 4 channels and the traffic for DN2 calls for 6 channels, then 4 of the shared MIVR channels must be configured for class 1 and 6 for class 2.

Mixed mode

A system can have both shared and dedicated channels. These would be both configured separately as noted above, but the classes should be kept separate. For example, if the dedicated channel classes are set as 1 to 10, the shared ACD DN classes must use another range of numbers.

Note the difference between dedicated and shared channels. Dedicated channels each have their own class. This class is also configured on the corresponding MIVR channel. Shared channels do not each have a class on Meridian Mail, but the Meridian IVR ACD DN's which they serve have classes instead. The shared channels on Meridian IVR do have classes and are the same as the class for the ACD DN they will serve.

Disk usage

This section describes the disk usage for the Meridian IVR 2.0/I by showing the disk partitioning and the software usage of the disk.

Disk partitioning

The disk drive used on the Meridian IVR 2.0/I is 1.2 Gbyte. The hard disk has a capacity of 1012 MByte after being formatted.

Prime hard disk drive

The first hard disk in Meridian IVR 2.0/I is divided into fixed-size logical areas or partitions. These partitions are described below:

dos

This partition holds the diagnostic software.

Root volume

This partition holds the bootable operating system and some temporary IVR files. This volume is also used for the Meridian IVR 2.0/I applications: ACCESS software, Meridian IVR interface, Meridian IVR Fax, and third-party software (such as SQL databases).

Swap area

This partition is used by the Operating System, whenever required, during operations.

u volume

This volume is used for different IVR accounts.

Table 4-3
Prime disk partitioning configuration

u	swap	root	dos	Reserved By UNIX System	Reserved by DOS
All values expressed in Mbytes					
688	100	200.5	13.5	7.85	2.5

Note: The total remaining disk space available after all options are installed is 558 Mbytes.

Second hard disk

The second hard disk is used when a large area for fax storage is required or database software and data has occupied so much hard disk space that there is not enough space for the remaining fax data.

Note: The Second hard disk is used only for storing the fax data.

There is only one partition on the second hard disk (sdisk).

How Meridian IVR is configured

Before Meridian IVR can be configured you must gain an understanding of the type and number of channels on the Meridian Mail system you are going to use, the platform on which the Meridian Mail software release will be run on, and the type of switch to be used. The types of MIVR applications and grade of service desired should also be confirmed with the customer. At this point you can begin to configure Meridian IVR.

The following list is a high-level view of what the VAD should do to configure Meridian IVR.

Procedure 4-1

High-level method of configuring MIVR

- 1 Establish the type of MIVR applications and the type of ports required for each application.
- 2 Find grade of service (GOS) required for each application.
- 3 Determine the traffic intensity on the present Meridian Mail system, and anticipated traffic intensity on the proposed MIVR applications.
- 4 Determine the traffic patterns of the Meridian Mail system and the MIVR applications.
- 5 Calculate the number of channels and type of channels needed to service these calls. This can be done using Erlang-C traffic capacity tables. (Refer to Appendix G, "Erlang tables," on page G-1.)
- 6 Determine whether the channels are to be dedicated or shared with the Meridian Mail system.
- 7 Determine how many inbound MIVR channels and outbound MIVR channels will be needed for the MIVR applications.
- 8 Estimate the amount of voice storage needed on top of Meridian Mail requirements.
- 9 Determine the number of database servers and host sessions needed by the various channels.
- 10 Determine the number of ACCESS links necessary.
- 11 Finally, after your system size is determined, plan your MIVR applications by drawing a flowchart for the call paths, to configure the Meridian ACCESS-based applications.

- 12** Write specification for installer on the reassignment of agents to new ACD queues if necessary, and to update the Channel Allocation Table and the Voice Services Directory Number table if required.